CLAIMS

I claim:

1. A method for selecting a first driver for driving a load capacitance from a plurality of drivers, said method comprising:

computing, for each driver in said plurality of drivers, a cost based on a cost function associated with said driver for driving said load capacitance, said cost function being directly proportional to a delay of said driver and inversely proportional to the logarithm of a stage gain of said driver; and

selecting said driver having the smallest cost as said first driver.

2. The method of claim 1, wherein said stage gain is an output capacitance driven by said driver divided by an input capacitance of said driver, said output capacitance being said load capacitance.

3. The method of claim 1, wherein said delay for each of said plurality of drivers is specified in a cell library.

4. The method of claim 2, wherein said computing a cost based on a cost function associated with said driver comprises performing a table look-up operation to retrieve said cost associated with said output capacitance for said driver from a precomputed table including a plurality of cost values indexed by a range of output capacitance values.

5. The method of claim 4, wherein said computing further comprises interpolating cost values in said precomputed table to retrieve said cost for said load capacitance.

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6. The method of claim 1, wherein said computing a cost based on a cost function associated with said driver comprises performing a table look-up operation to retrieve said cost associated with said load capacitance for said

5 driver from a pre-computed table including a plurality of cost values indexed by a range of stage gain values.

7. The method of claim 6, wherein said computing further comprises interpolating cost values in said precomputed table to retrieve said cost for said load

10 capacitance.

8. The method of claim 1, wherein said cost function is given as $C = \dfrac{Stage\ Delay}{\ln\left(\dfrac{C_{OUT}}{C_{IN}}\right)}$, where C is said cost, said stage delay is said delay of said driver, C_{OUT} is an output capacitance driven by said driver and C_{IN} is an input

15 capacitance of said driver, said output capacitance being said load capacitance.

9. The method of claim 1, wherein said plurality of drivers comprises buffers and inverters.

10. The method of claim 1, wherein said plurality of

20 drivers comprises NAND gates and NOR gates.

11. A method for determining a first load capacitance to be driven by a driver, said method comprising:

providing a set of cost values as a function of load capacitance based on a cost function for said

25 driver, said cost function being directly proportional to a delay of said driver and inversely proportional to the logarithm of a stage gain of said driver; and

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selecting said load capacitance associated with the smallest cost as said first load capacitance.

12. The method of claim 11, wherein said plurality of drivers comprises buffers and inverters.

5   13. The method of claim 11, wherein said plurality of drivers comprises NAND gates and NOR gates.

14. The method of claim 11, wherein said providing a set of cost values as a function of load capacitance comprises computing said set of cost values over a range of

10   load capacitance values using said cost function, and storing said set of cost values in a precomputed table, said precomputed table being associated with said driver in a cell library.

15. The method of claim 11, wherein said providing a

15   set of cost values as a function of load capacitance comprises providing a set of cost values as a function of stage gain, said stage gain being an output capacitance driven by said driver divided by an input capacitance of said driver.

20   16. The method of claim 15, wherein said providing a set of cost values as a function of stage gain comprises computing said set of cost values over a range of stage gain values using said cost function, and storing said set of cost values in a precomputed table, said precomputed table

25   being associated with said driver in a cell library.

17. The method of claim 11, wherein said cost function is given as $C = \dfrac{Stage\ Delay}{\ln\left(\dfrac{C_{OUT}}{C_{IN}}\right)}$, where C is said cost, said stage delay is said delay of said driver, C_{OUT} is an output

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capacitance driven by said driver and C_{IN} is an input capacitance of said driver, said output capacitance being said load capacitance.

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